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PATENT APPLN. NO. 10/542,046
RESPONSE UNDER 37 C.F.R. §1.111

PATENT
NON-FINAL

REMARKS

Claims 1 and 5 to 11 are rejected under 35 U.S.C. §103(a) over Inamasu, Japanese Patent Application Publication No. 07-142093 (machine translation) ("Inamasu") in view of Kazuhara et al., Japanese Patent Application Publication No. 2002-145623 (machine translation) ("Kazuhara"), and further in view of Inagaki et al., Japanese Patent Application Publication No. 2002-203552 (machine translation) ("Inagaki").

The Office has cited Inamasu as teaching a nonaqueous electrolyte secondary battery that uses a material capable of storing and releasing lithium as a negative electrode material (abstract) and that uses a lithium transition metal complex oxide containing Ni and Mn as the transition metals and having a layered structure as a positive electrode material (0004). The Office notes that Inamasu discloses the lithium transition metal complex oxide as giving a pH value within the range of 9.0 - 11.0 when it is immersed in purified water in the amount of 5 g per 100 ml of the purified water. The Office further notes that Inamasu discloses that the lithium transition metal complex oxide is represented by the $\text{Li}_a\text{Mn}_x\text{Ni}_y\text{Co}_z\text{O}_2$ (wherein a, x, y and z satisfy the limitations in claim 5 of the application).

Kazuhara is cited as teaching a nonaqueous electrolyte

secondary battery that uses a material capable of storing and releasing lithium as a negative electrode material and a lithium transition metal complex oxide containing Ni and Mn as the transition metal and having a layered structure as a positive electrode material (abstract), the lithium transition metal complex oxide having a BET specific surface area of less than 3 m²/g (0037). The Office notes that the lithium transition metal complex oxide in Kazuhara meets the limitations as recited in claims 5-11.

Inagaki is cited as teaching an outer casing for a nonaqueous electrolyte secondary battery that is composed at least partly of an aluminum alloy or aluminum laminate film having a thickness of up to 0.5 mm and susceptible to deformation in case of internal pressure buildup due to gas generation within the battery during storage.

It is the Office's position that it would have been obvious to one having ordinary skill in the art at the time the invention was made to "insert the teachings of Kazuhara, and Inagaki, into the teachings of Inamasu". The position of the Office is understood to be that it would have been obvious to modify the battery of Inamasu according to the teachings of Kazuhara, and Inagaki to obtain the battery of the present invention. The stated motive for such

combination is that each of the references teaches a lithium secondary battery comprising a lithium transition metal complex oxide, and that Kazuhara teaches using a lithium transition metal complex oxide containing substantially the same amount of nickel and manganese to provide a lithium secondary battery having high safety and high capacity, and Inagaki teaches that if the outer casing of aluminum has a thickness that exceeds 0.5 mm, the capacity per weight of the cell will decrease.

Notwithstanding that the Office has not explained, as it must, why a person of ordinary skill in the art could fairly predict the results of the proposed modification of the battery of Inamsu, claim 1 has been amended to limit the pH value that the lithium transition metal complex oxide gives when it is immersed in purified water in the amount of 5 g per 50 ml of the purified water to the range of 10.61 to 11.0. The lower pH limit of 10.61 is supported by Example 3 of Table 1 on page 19 of the specification of the present application. Inamasu discloses a pH of 10 or less which does not overlap the pH range claimed in the present application. Thus, the combination proposed by the Office will not result in the battery of the present application.

Furthermore, the comparative data of the specification demonstrate unexpectedly improved results sufficient to rebut a

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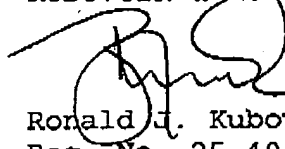
case of prima facie obviousness. Specifically, the present invention provides unexpectedly improved suppression of gas evolution during high-temperature storage in a charged state when the lithium transition metal complex oxide gives a pH value within the range of 10.61 - 11.0 as recited in the claims. (See, for example, the comparative data in Table 1, page 19, of the present application).

Removal of the 35 U.S.C. 103(a) rejection of the claims is believed to be in order and is respectfully requested.

The foregoing is believed to be a complete and proper response to the Office Action dated January 9, 2008.

In the event that this paper is not considered to be timely filed, applicants hereby petition for an appropriate extension of time. The fee for any such extension and any required additional fees may be charged to Deposit Account No. 111833.

Respectfully submitted,
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